

Amendments to the Claims:

Following is a complete listing of the claims pending in the application, as amended, which replaces all prior versions and listings of claims in the application:

1-7. (Canceled.)

8. (Currently Amended) A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources; by,

before supplying the value to the client, determining whether the value to be supplied satisfies a criteria indicated for the requested value; and

if it is determined that the value does not satisfy the indicated criteria,

requesting at least one of the first and second sources to supply a value for the one attribute that satisfies the indicated criteria;

receiving in response to the requesting at least one additional value for the one attribute that satisfies the indicated criteria; and

supplying to the client a value for the one attribute based on the received additional values;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

9. (Original) The method of claim 8 wherein the receiving of a value for the one attribute from the first source includes receiving descriptive information about the received value.

10. (Original) The method of claim 9 wherein the descriptive information includes a time at which the received value is most accurate.

11. (Original) The method of claim 9 wherein the descriptive information includes a confidence factor indicating a likelihood of accuracy of the received value.

12. (Original) The method of claim 9 including supplying the descriptive information about the received value to the client.

13. (Original) The method of claim 8 wherein the supplying of a value for the one attribute to the client includes supplying an indication of the source from which the supplied value was received.

14. (Original) The method of claim 8 wherein a received indication from the client for the value of the one attribute additionally include an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

15. (Original) The method of claim 8 wherein the supplied value based on the values received from the first and second sources is a mediated value.

16. (Canceled)

17. (Original) The method of claim 8 including storing values for attributes that are received from sources so that the stored values can be later supplied to clients.

18. (Original) The method of claim 8 wherein the one attribute represents information about a user of the computer.

19. (Previously Presented) A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state, the one attribute representing information about a user of the computer that includes a modeled mental state of the user;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of an ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of an inability to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute received from the second source.

20. (Original) The method of claim 8 wherein the one attribute represents information about the computer.

21. (Original) The method of claim 8 wherein the one attribute represents information about a physical environment of a user of the computer.

22. (Original) The method of claim 8 wherein the one attribute represents information about a cyber-environment of a user of the computer.

23. (Original) The method of claim 8 including:
after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for the one attribute; and
after receiving an indication from the client for a value of the one attribute, indicating to the client that the value of the one attribute is not currently available.

24. (Currently Amended) ~~The method of claim 8 including:~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second

source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source; and

after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute,
identifying a criteria that a value to be supplied to the client is to satisfy;
determining that a value of the one attribute which satisfies the identified criteria is not available; and
supplying to the client a value of the one attribute which does not satisfy the identified criteria.

25. ~~(Currently Amended)-The method of claim 8 including:~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source; and

after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for
the one attribute; and
after receiving an indication from the client for a value of the one attribute,
generating a value of the one attribute; and
supplying to the client the generated value.

26. (Original) The method of claim 8 including, after receiving an indication from the client for a value of a second indicated attribute, supplying to the client a value for the second attribute.

27. (Original) The method of claim 26 wherein the supplied value for the second attribute is received from the first source.

28. (Original) The method of claim 8 including, after receiving an indication from a second client for a value of an attribute, supplying to the second client a value for the attribute.

29. (Original) The method of claim 28 wherein the attribute whose value is indicated by the second client is the one attribute.

30. (Previously Presented) A method in a computer for a first intermediary module to perform providing of information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of an ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of an inability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute received from the second source;

receiving from a second intermediary module an indication of a desire to perform the providing of the information about the modeled current state; and

in response to the received indication from the second intermediary module, permitting the second intermediary module to perform future providing of the information about the modeled current state.

31. (Original) The method of claim 30 wherein the permitting includes supplying to the second intermediary module an indication of each source which is currently indicated to have an ability to supply values for at least one of the state attributes, so that the second intermediary module can receive future indications of abilities and inability to supply values for state attributes from sources.

32. (Original) The method of claim 31 including:

before the receiving of the indication from the second intermediary module, receiving from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, supplying to the second intermediary module an indication of each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received, so that the second intermediary module can receive future indications of desires to receive values for state attributes from clients.

33. (Original) The method of claim 31 including, under control of the second intermediary module, receiving the supplied indications of the sources which are currently indicated to have an ability to supply values for at least one of the state attributes and notifying the indicated sources to supply the future indications to the second intermediary module.

34. (Original) The method of claim 30 wherein the permitting includes notifying each source which is currently indicated to have an ability to supply values for at least one of the state attributes to supply future indications of abilities and inabilities to supply values for state attributes to the second intermediary module.

35. (Original) The method of claim 30 including:
before the receiving of the indication from the second intermediary module, receiving from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, notifying each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received to supply future indications of desires to receive values for state attributes to the second intermediary module.

36. (Original) The method of claim 8 wherein the received indications from the first and second sources of the ability to supply values for the one attribute are registration messages.

37. (Original) The method of claim 36 wherein each of the received indications from the client for the value of the one attribute are requests, and including receiving from the client a registration message before receiving any of the requests, the registration message indicating an interest of the client in receiving values for the one attribute.

38. (Original) The method of claim 8 wherein security information for a source must be received before any values of state attributes are received from the source.

39. (Original) The method of claim 8 wherein security information for a client must be received before any values of state attributes are supplied to the client.

40. (Original) The method of claim 8 wherein the indications from the client for the value of the one attribute are based on an indication of a desire to receive values for the one attribute that is received before the receiving of the indications of ability and inability to supply values from the first and second sources, and wherein the supplying of the values to the client is in response to receiving of values for the one attribute from the first or second sources.

41. (Original) The method of claim 8 wherein the received indications from the client for the value of the one attribute are requests received from the client, and wherein the supplying of the values to the clients are in response to the receiving of the requests.

42. (Original) The method of claim 41 including:
sending requests to the first or second sources for a value of the one attribute in response to the receiving of the requests from the clients; and
receiving values for the one attribute from the first or second sources in response to the sent requests.

43. (Original) The method of claim 8 wherein the first source is at a location remote from the computer, and wherein the indications from the first source of the ability and the inability to supply values for the one attribute are received based on proximity of the computer to the location of the first source.

44. (Original) The method of claim 8 wherein the first source is software executing on the computer, and wherein the indications from the first source of the ability and the inability to supply values for the one attribute are received based on availability of input information to the first source.

45. (Original) The method of claim 8 wherein the providing of the information about the modeled current state is performed by an operating system of the computer.

46. (Original) The method of claim 8 wherein the providing of the information about the modeled current state is performed by a software module, and including, upon commencement of execution of the software module, commencing execution of multiple sources that are each to supply values for at least one of the state attributes.

47. (Original) The method of claim 46 wherein the multiple sources that are to be executed are determined based on previous received indications of ability to supply values for at least one state attribute.

48. (Original) The method of claim 8 wherein the state attributes are part of a predefined taxonomy of attributes.

49. (Original) The method of claim 8 wherein the state attributes are dynamically defined by sources who indicate an ability to supply values for the defined attributes.

50. (Original) The method of claim 8 including receiving from the client an indication of another state attribute and an indication that a source for a value for the indicated another state attribute is to be a same source as for the supplied value for the one attribute, and selecting a value to be sent to the client for the another state attribute that is received from the same source.

51. (Original) The method of claim 8 including receiving from the first source an indication of a group of at least one authorized client, and wherein a value received from the first source is supplied to the client only if the client is one of the authorized clients.

52. (Original) The method of claim 8 wherein the first source includes a group of instructions to be executed to produce a value for the one attribute, and including loading and executing the group of instructions in response to the receiving of the indication from the client

for a value of the one attribute, the loading and executing so that the first source can produce the first value.

53. (Original) The method of claim 8 wherein receiving of the supplied value by the client prompts the client to present information to a user of the client.

54-94. (Canceled)

95. (Previously Presented) The method of claim 30 wherein the receiving of a value for the one attribute from the first source includes receiving descriptive information about the received value.

96. (Previously Presented) The method of claim 95 wherein the descriptive information includes at least one of a time at which the received value is most accurate and of a confidence factor indicating a likelihood of accuracy of the received value.

97. (Previously Presented) The method of claim 95 including supplying the descriptive information about the received value to the client.

98. (Previously Presented) The method of claim 30 wherein the supplying of a value for the one attribute to the client includes supplying an indication of the source from which the supplied value was received.

99. (Previously Presented) The method of claim 30 wherein a received indication from the client for the value of the one attribute additionally include an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

100. (Previously Presented) The method of claim 30 including storing values for attributes that are received from sources so that the stored values can be later supplied to clients.

101. (Previously Presented) The method of claim 30 wherein the one attribute represents information about at least one of a user of the computer, of the computer, of a physical environment of a user of the computer, and of a cyber-environment of a user of the computer.

102. (Previously Presented) The method of claim 30 including:
after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for the one attribute; and
after receiving an indication from the client for a value of the one attribute, indicating to the client that the value of the one attribute is not currently available.

103. (Previously Presented) The method of claim 30 including:
after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for the one attribute; and
after receiving an indication from the client for a value of the one attribute,
identifying a criteria that a value to be supplied to the client is to satisfy;
determining that a value of the one attribute which satisfies the identified criteria is not available; and
supplying to the client a value of the one attribute which does not satisfy the identified criteria.

104. (Previously Presented) The method of claim 30 including:
after the supplying of the value that is received from the second source,
receiving from the second source an indication of an inability to supply values for the one attribute; and
after receiving an indication from the client for a value of the one attribute,
generating a value of the one attribute; and
supplying to the client the generated value.

105. (Previously Presented) The method of claim 30 wherein the indications from the client for the value of the one attribute are based on an indication of a desire to receive values for the one attribute that is received before the receiving of the indications of ability and inability to supply values from the first and second sources, and wherein the supplying of the values to the client is in response to receiving of values for the one attribute from the first or second sources.

106. (Previously Presented) The method of claim 30 wherein the received indications from the client for the value of the one attribute are requests received from the client, and wherein the supplying of the values to the clients are in response to the receiving of the requests.

107. (Previously Presented) A computer-readable medium whose contents cause a first intermediary module of a computing device to provide information about a state that is modeled with multiple attributes, by performing a method comprising:

receiving from each of first and second sources an indication of an ability to supply values for an indicated one of the state attributes of the modeled state;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from at least one of the first and second sources;

after receiving from the first source an indication of an inability to supply values for the one attribute, supplying to the client a value for the one attribute received from the second source;

receiving from a second intermediary module an indication to provide information about the modeled state; and

in response to the received indication from the second intermediary module, indicating to the second intermediary module to provide information about the modeled state.

108. (Previously Presented) The computer-readable medium of claim 107 wherein the computer-readable medium is a memory of the computing device.

109. (Currently Amended) ~~The method of claim 8~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state, wherein the modeled current state reflects at least in part a current state of the computer;:

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute, wherein a current location of the computer changes after the supplying of the value based on the values received for the one attribute from the first and second sources, and wherein the inability of the first source to supply values for the one attribute is based at least in part on the changed current location of the computer; and:

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

110. (Currently Amended) ~~The method of claim 8~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state, wherein the modeled current state reflects at least in part a current state of the computer;:

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute, wherein a current location of the computer changes after the supplying of the value received from the first source, and wherein the ability of the second source to supply values for the one attribute is based at least in part on the changed current location of the computer;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

111. (Currently Amended) ~~The method of claim 8~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state, wherein the modeled current state reflects at least in part a current state of a user of the computer;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute, wherein a current location of the user changes after the supplying of the value based on the values received for the one attribute from the first and second sources, and wherein the inability of the first source to supply values for the one attribute is based at least in part on the changed current location of the user; and

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

112. (Currently Amended) ~~The method of claim 8.~~ A method in a computer for providing information about a current state that is modeled with multiple attributes, the method comprising:

receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state, wherein the modeled current state reflects at least in part a current state of a user of the computer;

after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute, wherein a current location of the user changes after the supplying of the value received from the first source, and wherein the ability of the second source to supply values for the one attribute is based at least in part on the changed current location of the user;

after receiving an indication from the client for a value of the one attribute, supplying to the client a value for the one attribute based on values received for the one attribute from the first and second sources;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

113. (New) The computer-readable medium of claim 107 wherein the indicating to the second intermediary module includes supplying to the second intermediary module an indication of each source which is currently indicated to have an ability to supply values for at least one of the state attributes, so that the second intermediary module can receive future indications of abilities and inabilities to supply values for state attributes from sources.

114. (New) The computer-readable medium of claim 113 wherein the method further comprises:

before the receiving of the indication from the second intermediary module, receiving from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, supplying to the second intermediary module an indication of each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received, so that the second intermediary module can receive future indications of desires to receive values for state attributes from clients.

115. (New) The computer-readable medium of claim 113 wherein the method further comprises, under control of the second intermediary module, receiving the supplied indications of the sources which are currently indicated to have an ability to supply values for at least one of the state attributes, and notifying the indicated sources to supply the future indications to the second intermediary module.

116. (New) The computer-readable medium of claim 107 wherein the method further comprises, in response to the received indication from the second intermediary module, notifying

each source which is currently indicated to have an ability to supply values for at least one of the state attributes to supply future indications of abilities and inabilities to supply values for state attributes to the second intermediary module.

117. (New) The computer-readable medium of claim 107 wherein the method further comprises:

before the receiving of the indication from the second intermediary module, receiving from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, notifying each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received to supply future indications of desires to receive values for state attributes to the second intermediary module.

118. (New) The computer-readable medium of claim 107 wherein a received indication from the client for the value of the one attribute additionally includes an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

119. (New) The computer-readable medium of claim 107 wherein the one attribute represents information about at least one of a user of the computing device, of the computing device, of a physical environment of a user of the computing device, and of a cyber-environment of a user of the computing device.

120. (New) The computer-readable medium of claim 107 wherein the indications from the client for the value of the one attribute are based on an indication of a desire to receive values for the one attribute that is received before the receiving of the indications of ability and inability to supply values from the first and second sources, and wherein the supplying of the values to the client is in response to receiving of values for the one attribute from the first or second sources.

121. (New) The computer-readable medium of claim 107 wherein the received indications from the client for the value of the one attribute are requests received from the client, and wherein the supplying of the values to the clients are in response to the receiving of the requests.

122. (New) A computing device for providing information about a state that is represented with multiple attributes, comprising:

a memory; and

a first intermediary module that is configured to

receive from each of first and second sources an indication of an ability to supply values for an indicated one of the state attributes of the modeled state;

after receiving an indication from a client for a value of the one attribute, supply to the client a value for the one attribute based on values received for the one attribute from at least one of the first and second sources;

after receiving from the first source an indication of an inability to supply values for the one attribute, supply to the client a value for the one attribute received from the second source;

receive from a second intermediary module an indication to provide information about the modeled state; and

in response to the received indication from the second intermediary module, indicate to the second intermediary module to provide information about the modeled state.

123. (New) The computing device of claim 122 wherein the first intermediary module includes software instructions for execution in the memory.

124. (New) The computing device of claim 122 further comprising multiple sources and multiple clients that each includes software instructions for execution in the memory.

125. (New) The computing device of claim 122 wherein the indicating to the second intermediary module includes supplying to the second intermediary module an indication of each

source which is currently indicated to have an ability to supply values for at least one of the state attributes, so that the second intermediary module can receive future indications of abilities and inabilities to supply values for state attributes from sources.

126. (New) The computing device of claim 125 wherein the first intermediary module is further configured to:

before the receiving of the indication from the second intermediary module, receive from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, supply to the second intermediary module an indication of each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received, so that the second intermediary module can receive future indications of desires to receive values for state attributes from clients.

127. (New) The computing device of claim 125 further comprising the second intermediary module that is configured to receive the supplied indications of the sources which are currently indicated to have an ability to supply values for at least one of the state attributes, and notify the indicated sources to supply the future indications to the second intermediary module.

128. (New) The computing device of claim 122 wherein the first intermediary module is further configured to, in response to the received indication from the second intermediary module, notify each source which is currently indicated to have an ability to supply values for at least one of the state attributes to supply future indications of abilities and inabilities to supply values for state attributes to the second intermediary module.

129. (New) The computing device of claim 122 wherein the first intermediary module is further configured to:

before the receiving of the indication from the second intermediary module, receive from each of multiple clients an indication of a desire to receive at least one value for a specified state attribute; and

in response to the received indication from the second intermediary module, notify each client from whom an indication of a desire to receive at least one value for a specified state attribute has been received to supply future indications of desires to receive values for state attributes to the second intermediary module.

130. (New) The computing device of claim 122 wherein a received indication from the client for the value of the one attribute additionally includes an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

131. (New) The computing device of claim 122 wherein the one attribute represents information about at least one of a user of the computing device, of the computing device, of a physical environment of a user of the computing device, and of a cyber-environment of a user of the computing device.

132. (New) The computing device of claim 122 wherein the indications from the client for the value of the one attribute are based on an indication of a desire to receive values for the one attribute that is received before the receiving of the indications of ability and inability to supply values from the first and second sources, and wherein the supplying of the values to the client is in response to receiving of values for the one attribute from the first or second sources.

133. (New) The computing device of claim 122 wherein the received indications from the client for the value of the one attribute are requests received from the client, and wherein the supplying of the values to the clients are in response to the receiving of the requests.

134. (New) A computer-readable medium whose contents cause a computing device to provide information about a state that is modeled with multiple attributes, by performing a method comprising:

- receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled state;

- after receiving an indication from a client for a value of the one attribute, supplying to the client a value for the one attribute received from the first source;

- after the supplying of the value received from the first source, receiving from a second source an indication of a current ability to supply values for the one attribute;

- after receiving an indication from the client for a requested value of the one attribute and before supplying to the client a value for the one attribute that is based on one or more values received for the one attribute from the first and second sources,

- determining whether the value to be supplied satisfies a criteria indicated for the requested value; and

- if it is determined that the value to be supplied does not satisfy the indicated criteria,

- requesting at least one of the first and second sources to supply a value for the one attribute that satisfies the indicated criteria;

- receiving in response to the requesting at least one additional value for the one attribute that satisfies the indicated criteria; and

- supplying to the client a value for the one attribute based on the received additional values;

- after the supplying of the value based on the values received for the one attribute from the first and second sources, receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute; and

- after receiving an indication from the client for a value of the one attribute, determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supplying to the client a value for the one attribute received from the second source.

135. (New) The computer-readable medium of claim 134 wherein the computer-readable medium is a memory of the computing device.

136. (New) The computer-readable medium of claim 134 wherein the supplying of a value for the one attribute to the client includes supplying an indication of the source from which the supplied value was received.

137. (New) The computer-readable medium of claim 134 wherein a received indication from the client for the value of the one attribute additionally includes an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

138. (New) The computer-readable medium of claim 134 wherein the one attribute represents information about at least one of a user of the computing device, of the computing device, of a physical environment of a user of the computing device, and of a cyber-environment of a user of the computing device.

139. (New) The computer-readable medium of claim 134 wherein the method further comprises, after receiving an indication from the client for a value of a second indicated attribute, supplying to the client a value for the second attribute.

140. (New) The computer-readable medium of claim 139 wherein the supplied value for the second attribute is received from the first source.

141. (New) A computing device for providing information about a state that is represented with multiple attributes, comprising:

a memory; and

a first intermediary module that is configured to

receive from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the state;

after receiving an indication from a client for a value of the one attribute, supply to the client a value for the one attribute received from the first source;

after the supplying of the value received from the first source, receive from a second source an indication of a current ability to supply values for the one attribute;

after receiving an indication from the client for a requested value of the one attribute and before supplying to the client a value for the one attribute that is based on one or more values received for the one attribute from the first and second sources,

determine whether the value to be supplied satisfies a criteria indicated for the requested value; and

if it is determined that the value to be supplied does not satisfy the indicated criteria,

request at least one of the first and second sources to supply a value for the one attribute that satisfies the indicated criteria;

receive in response to the requesting at least one additional value for the one attribute that satisfies the indicated criteria; and

supply to the client a value for the one attribute based on the received additional values;

after the supplying of the value based on the values received for the one attribute from the first and second sources, receive from the first source an indication of a temporary current inability of the first source to supply values for the one attribute; and

after receiving an indication from the client for a value of the one attribute, determine that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute, and in response supply to the client a value for the one attribute received from the second source.

142. (New) The computing device of claim 141 wherein the first intermediary module includes software instructions for execution in the memory.

143. (New) The computing device of claim 141 further comprising multiple sources and multiple clients that each includes software instructions for execution in the memory.

144. (New) The computing device of claim 141 wherein the supplying of a value for the one attribute to the client includes supplying an indication of the source from which the supplied value was received.

145. (New) The computing device of claim 141 wherein a received indication from the client for the value of the one attribute additionally includes an indication of a source for the value, and wherein the value of the one attribute that is supplied to the client in response is received from the indicated source.

146. (New) The computing device of claim 141 wherein the one attribute represents information about at least one of a user of the computing device, of the computing device, of a physical environment of a user of the computing device, and of a cyber-environment of a user of the computing device.

147. (New) The computing device of claim 141 wherein the first intermediary module is further configured to, after receiving an indication from the client for a value of a second indicated attribute, supply to the client a value for the second attribute.

148. (New) The computing device of claim 147 wherein the supplied value for the second attribute is received from the first source.